

REMARKS

Claims 1-3, 5-12 and 14-22 are pending. By this Amendment, claims 4 and 13 are canceled, claims 1, 10, 14 and 16 are amended, and new claims 19-22 are added.

Applicants appreciate the Office Action's indication that claims 4 and 13 contain allowable subject matter. Claims 1 and 10 are amended to incorporate the allowable features of claims 4 and 13, respectively.

Claims 14 and 16 are amended to remove any language that may be construed as means-plus-function language and not for any reasons related to patentability.

I. Claims Define Patentable Subject Matter

The Office Action rejects claims 1-3, 5, 6, 8-12, 14, 15, 17 and 18 under 35 U.S.C. §102(b) over U.S. Patent 6,276,317 to Yoeda et al. With respect to claims 1-3 and 10-12, this rejection is moot. With respect to the remaining claims, this rejection is respectfully traversed.

Specifically, with respect to claim 5, Yoeda does not disclose or suggest a controller that is adapted to control application of current to a magnet in such a way that the magnet generates electromagnetic force to bring a valve to a middle position while suppressing free oscillation of the valve when the internal combustion engine is to be stopped, as in the invention of claim 5, or controlling application of current to a magnet in such a way that the magnet generates electromagnetic force to bring the valve to the middle position while suppressing free oscillation of the valve when the internal combustion engine is to be stopped, as in the invention of claim 14. Instead, Yoeda discloses stopping application of current to the exhaust valve driving mechanism while maintaining the intake valve fully closed when the engine is to be stopped in order to prevent exhaust gas from entering the intake passage, and later stopping application of current to the intake valve driving mechanism when the intake pressure becomes equal to the exhaust passage pressure. Yoeda

specifically mentions that after application of current to the intake or exhaust valve has been stopped, the valve undergoes damping oscillation due to the urging force of the upper and lower springs and then stops at the half open position. See e.g., Yoeda at col. 10, lines 32-40.

The Office Action rejects claims 7 and 16 under 35 U.S.C. §103(a) over Yoeda in view of U.S. Patent 6,343,577 to Toriumi. This rejection is respectfully traversed.

Claims 7 and 16 depend from claims 5 and 14, respectively. As discussed above, claims 5 and 14 define patentable subject matter.

With respect to new claims 19 and 22, Yoeda does not disclose a controller that is adapted to stop application of current to at least one magnet for a first valve or a first valve group that is associated with a first cylinder at a first timing and stop application of current to at least one magnet for a second valve or a second valve group that is associated with a second cylinder at a second timing that is a predetermined time later from the first timing when the internal combustion engine is to be stopped, as in the invention of claim 19, or a method for driving a plurality of valves including stopping application of current to at least one magnet for a first valve group that is associated with a first cylinder at a first timing and stop application of current to at least one magnet for a second valve or a second valve group that is associated with a second cylinder at a second timing that is a predetermined time later from the first timing when the internal combustion engine is to be stopped, as in the invention of claim 22. Instead, Yoeda is concerned with the control of only a single cylinder.

With respect to claims 20 and 21, Yoeda does not disclose a controller that is adapted to stop application of current to at least one magnet for a second valve or a second valve group among the valves at a second timing that is a predetermined time later from the first timing when the internal combustion engine is to be stopped, the predetermined time being the time needed for a free oscillation of the first valve to decay to a specific level, as recited in claim 20, or a controller that is adapted to stop application of current to at least one magnet

for a second valve or a second valve group among the valves at a second timing that is a predetermined time later from the first timing when the internal combustion engine is to be stopped, the predetermined time being the time needed for a free oscillation of the first valve to decay to a specific level, as recited in the invention of claim 21.

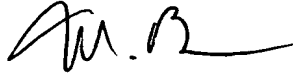
Instead, the times T1, T2 and T3 do not relate to the time needed for a free oscillation of the first valve to decay to a specific level. Specifically, T1 is a time that is needed for the pressure in the intake passage 36 to become equal to the pressure in the exhaust passage 50 after the ignition switch 57 is turned off. See e.g., col. 10, lines 26-30. T2 is preset to a time that is needed for fresh air to fill the intake passage 36, the combustion chambers 26, and the exhaust passage 50. See e.g., col. 12, lines 27-31. T3 is preset to a time that is needed for the pressure in the intake passage 36 to rise to the atmospheric pressure. See e.g., col. 13 lines 60-63.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Michael Britton
Registration No. 47,260

JAO:MQB/ale

Attachment:
Amendment Transmittal

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OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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